

I CLAIM:

1. A method of coding a message for digital watermark embedding of the message into a host media signal comprising:
performing a block coding on a message payload;
5 performing a convolutional coding on the block coded payload to generate a raw message;
digital watermark embedding the raw message into the host media signal.

10 2. The method of claim 1 including:
spread spectrum modulating the raw message; and digital watermark embedding the raw message into the host media signal.

15 3. The method of claim 2 wherein the spread spectrum modulation includes modulating raw message bits output from the convolutional coding with a key.

20 4. A method of decoding a message for digital watermark reading of the message from a host media signal in which the message is embedded, the method comprising:
detecting an estimate of a raw message carried in a digital watermark in the host media signal;
performing convolutional decoding of the estimate of the raw message; and
performing block decoding of the convolutional decoded message to recover the message.

25 5. The method of claim 4 including:
spread spectrum demodulating the estimate of the raw message from the host media signal.

6. A computer readable medium on which is stored instructions for performing the method of claim 1.

7. A computer readable medium on which is stored instructions for performing the method of claim 4.

5 8. A method of coding a message for digital watermark embedding of the message into a host media signal comprising:
 performing error correction coding on a message payload;
 performing M-ary modulation on the error correction encoded payload to generate
 a raw message;
10 digital watermark embedding the raw message into the host media signal.

 9. The method of claim 8 wherein the error correction coding comprises convolutional coding.

15 10. The method of claim 8 wherein the error correction coding comprises block coding.

 11. The method of claim 10 wherein the block coding comprises Reed Solomon coding.

20 12. The method of claim 10 wherein the block coding comprises BCH coding.

 13. A method of decoding a message for digital watermark reading of the message from a host media signal in which the message is embedded, the method
25 comprising:

 detecting an estimate of a raw message carried in a digital watermark in the host media signal by performing M-ary demodulation;
 performing error correction decoding of the estimate of the raw message to recover the message.

5 15. The method of claim 14 wherein the block decoding comprises Reed
Solomon decoding.

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18. A computer readable medium on which is stored instructions for performing the method of claim 13.